LISTING OF THE CLAIMS:

Claim 1 (Cancelled).

2. (Previously Presented) A method according to Claim 17, wherein:

the step of using the digital controller to generate a second variable signal includes the step of increasing a count value during a given period of time; and

the step of applying the second signal includes the step of transmitting said count value to the input/output cell after the given period.

3. (Previously Presented) A method according to Claim 2, wherein:

the reference cell includes a series of transistors for adjusting the voltage of the node; and

the step of using the digital controller to generate the first signal includes the step of using the count value to activate said transistors in a given order to adjust the voltage of the node.

4. (Previously Presented) A method according to Claim 17, wherein:

the reference cell includes a first set of transistors for adjusting the voltage of the node;

the input/output cell includes a second set of transistors for adjusting the input/output impedance;

each of the transistors of said first set is associated with one of the transistors in said second set;

the step of using the digital controller to generate the first signal includes the step of activating a subset of the first set of transistors to adjust the voltage of said node; and

the step of applying the second signal includes the step of transmitting the second signal to the input/output cell to activate transistors of the second set of transistors that are associated with said subset of the first set of transistors.

5. (Previously Presented) A method according to Claim 17, wherein:

the input/output impedance of the input/output cell varies in a defined manner as a function of a given set of variables; and

the variable voltage of the node of the reference cell also varies in said defined manner as a function of said given set of variables.

6. (Original) A method according to Claim 5, wherein:

the reference cell includes a reference resistor for establishing the variable voltage at said node; and

said resistor has an impedance that varies in said defined manner as a function of said given set of variables.

7. (Previously Presented) A method according to Claim 17, wherein the step of using the digital controller to generate the first signal includes the steps of:

if the voltage of the node is less than the reference voltage, then increasing the voltage of the node in a first manner; and

if the voltage of the node is more than the reference voltage, then decreasing the voltage of the node in a second manner.

8. (Previously Presented) A method according to Claim 7, wherein:

the increasing step includes the steps of

i) applying a reference signal from the reference cell to the digital controller, and

ii) the digital controller applying ~~a~~ the second signal to the reference cell to increase the voltage of the node; and

the decreasing step includes the steps of

i) applying the reference signal from the reference cell to the digital controller, and

ii) the digital controller applying ~~a~~ the second signal to the reference cell to decrease the voltage of the node.

Claim 9 (Cancelled).

10. (Previously Presented) An integrated circuit according to Claim 18, wherein:

the first variable signal is a count value that is increased during a given period of time; and

the means to apply the second signal transmits said count value to the input/output cell after the given period.

11. (Previously Presented) An integrated circuit according to Claim 10, wherein the reference cell includes:

a series of transistors for adjusting the voltage of the node; and

means for using the count value to activate said transistors in a given order to adjust the voltage of the node.

12. (Previously Presented) An integrated circuit according to Claim 18, wherein:

the input/output cell includes a first set of transistors for adjusting the input/output impedance;

the reference cell further includes a second set of transistors for adjusting the voltage of the node;

each of the transistors of said second set is associated with one of the transistors in said first set;

the reference cell includes means for activating a subset of the second set of transistors to adjust the voltage of said node; and

the means apply the second signal includes means for transmitting the second signal to the input/output cell to activate transistors of the first set of transistors that are associated with said subset of the second set of transistors.

13. (Previously Presented) An integrated circuit according to Claim 18, wherein:

the input/output impedance of the input/output cell varies in a defined manner as a function of a given set of variables; and

the variable voltage of said node also varies in said defined manner as a function of said given set of variables.

14. (Previously Presented) An integrated circuit according to Claim 13, wherein:

the reference cell further includes a reference resistor for establishing the variable voltage at said node; and

said resistor has an impedance that varies in said defined manner as a function of said given set of variables.

15. (Previously Presented) An integrated circuit according to Claim 18, wherein the reference cell includes:

means for increasing the voltage of the node in a first manner if the voltage of the node is less than the reference voltage; and

means for decreasing the voltage of the node in a second manner if the voltage of the node is more than the reference voltage.

16. (Previously Presented) An integrated circuit according to Claim 18, wherein said digital controller is a synthesized core or macro.

17. (Previously Presented) A method of controlling the impedance of a driver of an input/output cell of an integrated circuit, comprising the steps of:

providing a reference cell including a node having a variable voltage;

providing a digital controller;

using the digital controller to generate a first variable signal and to apply the first variable signal to the reference cell to change the voltage of the node;

comparing the voltage of the node to a reference voltage;

using the digital controller to generate a second variable signal based on said comparison, including the step of adjusting said second signal until a stable value is reached for said second signal;

applying the second signal to the input/output cell to adjust the impedance of the driver of the input/output cell; and

applying a third signal to the input/output cell, during a defined period of time, to prevent the input/output cell from receiving the second signal until the value of the second signal becomes stable.

18. (Previously Presented) An application specific integrated circuit comprising:

an input/output cell having a varying input/output impedance;

a reference cell including a node having a variable voltage;

a digital controller to generate a first variable signal and to apply the first variable signal to the reference cell to change the voltage of the node; and

a comparator for comparing the voltage of the node to a reference voltage; and

wherein the digital controller includes

i) means to generate a second variable signal based on said comparison, including means for adjusting said second signal until a stable value is reached for said second signal,

ii) means to apply the second signal to the input/output cell to adjust the impedance of the driver of the input/output cell, and

iii) means to apply a third signal to the input/output cell, during a defined period of time, to prevent the input/output cell from receiving the second signal until the value of the second signal becomes stable.

19. (Currently Amended) A method of controlling the impedance of a driver of an input/output cell of an integrated circuit, the driver having a variable input signal, the method comprising the steps of:

providing a reference cell including a node having a variable voltage;

providing a digital controller;

using the digital controller to generate a first variable signal and to apply the first variable signal to the reference cell to change the voltage of the node;

comparing the voltage of the node to a reference voltage;

using the digital controller to generate a second variable signal based on said comparison, including the step of adjusting said second signal until a stable value is reached for said second signal;

applying the second signal to the input/output cell ~~to adjust the impedance of the driver of the input/output cell to adjust the impedance of the driver of the input/output cell~~;

holding the second signal at the input/output cell; and

when ~~a predefined event occurs~~ the input signal of the driver changes in a predetermined manner, applying the second signal to the driver ~~o~~ of the input/output cell to adjust the impedance of said driver.

20. (Currently Amended) An application specific integrated circuit comprising:

an input/output cell ~~having~~ including a driver having a variable input signal and a varying input/output impedance;

a reference cell including a node having a variable voltage;

a comparator for comparing the voltage of the node to a reference voltage; and

a digital controller;

wherein the digital controller includes

i) means to generate a second variable signal based on said comparison, including means for adjusting said second signal until a stable value is reached for said second signal; and

ii) means to apply the second signal to the input/output cell to adjust the impedance of the driver of the input/output cell; and

wherein the input/output cell includes

i) a plurality of latches to hold the second signal, and

ii) means to release the second signal from said latches and to apply the second signal to the driver of the input/output cell to adjust the impedance of said driver in response to ~~a predefined event occurring~~ the input signal of the driver changing in a predetermined manner.

21. (New) A method according to Claim 19, wherein:

the second signal includes first and second components; and

the step of applying the second signal to the driver includes the steps of

i) applying said first component to the driver to adjust the pull-up impedance thereof when the input signal of the driver decreases in a predetermined manner, and

ii) applying said second component to the driver to adjust the pull-down impedance thereof when the input signal of the driver increases in a predetermined manner.

22. (New) An application specific integrated circuit according to Claim 21, wherein:

the second signal includes first and second components; and

the means to release the second signal from said latches and to apply the second signal to the driver includes means for

i) applying said first component to the driver to adjust the pull-up impedance thereof when the input signal of the driver decreases in a predetermined manner, and

ii) applying said second component to the driver to adjust the pull-down impedance thereof when the input signal of the driver increases in a predetermined manner.